

In re Patent Application of:
ENRIQUEZ
Serial No. 09/686,247
Filed: OCTOBER 11, 2000

REMARKS

The specification and claims have been amended to improve their form and to more particularly characterize applicant's invention. Reconsideration of this application in light of the foregoing amendments and following remarks is respectfully requested.

The rejection of claims 1-20, under the provisions of 35 U.S.C. § 103, as allegedly being unpatentable over the combination of the patents Zhou 6,219,417 and Youngblood 6,137,189, is respectfully traversed.

Before discussing the shortcomings of the prior art relied upon in the outstanding Office Action, the present invention will be briefly reviewed, in order that differences between the cited prior art and applicant's invention, particularly as delineated in claims 1-20, may be more readily appreciated.

As is described in the initial portion of the present specification, manufacturers of telecommunication circuits and systems have attempted to incorporate as many functions as possible into subscriber line interface circuits in order that such circuits may conform with a given end use functionality.

The programming of such circuits has included the use of one or more external components, such as resistors or capacitors, which are coupled to the SLIC by separate pins associated with the programming components. Among the functions that typically use externally programmed components are soft polarity reversal of the tip and ring terminals, preventing false detection (ring trip) when ringing the phone,

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and the ability to measure or estimate the length of the wireline pair that connects the line card to the phone.

The present invention reduces the hardware complexity problem associated with employing a separate pin for each respective externally provided programming component by recognizing that multiple circuit functions of the card which use the same type of external programming component (e.g., a capacitor) may either not be necessary or they do not have to occur at the same time. This means that respectively different circuit functions maybe implemented using the same external passive component by controllably connecting that component with a respectively different signaling circuit, as its function is required.

To this end, applicant's invention employs a single passive circuit component (shown as a capacitor 60 in Figure 1 of the drawings of the present application). This capacitor is used in conjunction with the operation of each of a polarity reversal circuit, a ring trip detection logic circuit, and loop voltage output logic circuit.

Pursuant to the invention, in addition to providing a single passive external circuit component that corresponds to the same external passive component used among a plurality of different circuit functions, the present invention selectively enables one of the plurality of different circuits which performs a prescribed function while selectively disabling the others. In the course of this operation, the single external passive circuit component (capacitor) is coupled to that one of the circuits which is enabled, while being decoupled from the other circuits which are disabled.

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Applicant has carefully reviewed the prior art cited in the outstanding Office Action, but have been unable to find any disclosure of suggestion of the problem to which the invention is directed, much less the particular solution defined by applicant's claims.

As applicant has reviewed the Office Action and the asserted rejections, applicant has inferred that the patent to Zhou has been cited because it shows a multifunction block that may be used to implement a plurality of signal processing functions associated with telecommunication circuit operations. This block commonly referred to in the art as a SLAC (subscriber loop audio-processing circuit) is typically used to provide a plurality of functions, among which are listed in the patent as battery feed, over-voltage protection, ringing, supervision, coding, hybrid and test functionality.

In effect, Zhou employs a digital signal processing based block which is programmed to implement a specific telecommunication function. The programming is carried out by downloading software into the digital signal processing block so that the block is transformed into a unique piece of signal processing functionality.

Applicant's invention, on the other hand, is a considerably reduced complexity signal processing architecture for a telecommunication circuit, which employs a single common passive element that is alternatively used for whichever signal processing function is enabled, with the non-used circuits being selectively disabled by switching circuitry associated therewith.

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The capacitor 104 of Zhou to which reference is made in the statement of the rejection in the outstanding Office Action is part of the leakage impedance modeling of the subscriber loop, and bears no resemblance to either the present invention, or anything that is used to conduct programming in the circuit of Zhou. Zhou's programming is carried out by downloading of software into a digital signal processing block. Nothing resembling the present invention is disclosed or suggested.

Applicant does not understand the basis for the citation of the patent to Youngblood, discussed in the first paragraph on page 3 of the outstanding Office Action. For one thing, Zhou does in fact teach that his programmable circuit is able to perform respectively different circuit functions. However, programming is carried out by the downloading of software, not by the selectively enabling of dedicated circuit functions and associating those circuit function or coupling the same with a single passive circuit component (capacitor) to which the functionality of the enabled circuit function is defined.

What in fact is disclosed in the patent to Youngblood 6,137,189 is a SLIC which selectively enables or disables speech amplifiers in response to an external control signal that is independent of the on-hook/off-hook status of the telecommunication device. This has nothing to do with the present invention nor does it have anything to do or suggest a modification of anything in the circuitry of Zhou which would result in a configuration upon which applicant's claims would read.

It is respectfully submitted that upon reconsideration, it will be realized that the definition of applicant's

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invention, particularly as characterized in claims 1-20, sets forth circuitry and a methodology which is neither nor suggested by the cited prior art, for the reasons discussed above.

Consequently, favorable reconsideration of this application and a Notice of Allowability of claims 1-20 are respectfully requested.

Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees, to Deposit Account No. 01-0484 and please credit any excess fees to such deposit account.

Respectfully submitted,



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